

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING OF A CHANGE

(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

MOLCHANOV, Sergei Petrovich
ZAO "AVTEX LTD"
Profsojuznaya, 65
Moscow, 117806
FÉDÉRATION DE RUSSIE

Date of mailing (day/month/year) 13 September 2000 (13.09.00)	
Applicant's or agent's file reference	IMPORTANT NOTIFICATION
International application No. PCT/RU00/00040	International filing date (day/month/year) 07 February 2000 (07.02.00)

1. The following indications appeared on record concerning: <input checked="" type="checkbox"/> the applicant <input checked="" type="checkbox"/> the inventor <input type="checkbox"/> the agent <input type="checkbox"/> the common representative		
Name and Address MOLCHANOV, Sergei Petrovich ul. Mishina, 23-12 Moscow, 125083 Russian Federation	State of Nationality RU	State of Residence RU
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning: <input checked="" type="checkbox"/> the person <input type="checkbox"/> the name <input type="checkbox"/> the address <input type="checkbox"/> the nationality <input type="checkbox"/> the residence		
Name and Address	State of Nationality	State of Residence
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
3. Further observations, if necessary: The above-identified applicant/inventor should be deleted from the records		
4. A copy of this notification has been sent to: <div style="display: flex; justify-content: space-between;"> <div> <input checked="" type="checkbox"/> the receiving Office <input type="checkbox"/> the International Searching Authority <input type="checkbox"/> the International Preliminary Examining Authority </div> <div> <input checked="" type="checkbox"/> the designated Offices concerned <input type="checkbox"/> the elected Offices concerned <input type="checkbox"/> other: </div> </div>		

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Beatriz Morariu Telephone No.: (41-22) 338.83.38
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PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

To:

MOLCHANOV, Sergei Petrovich
ZAO "AVTEX LTD"
Profsojuznaya, 65
Moscow, 117806
FÉDÉRATION DE RUSSIE

Date of mailing (day/month/year) 13 September 2000 (13.09.00)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference	
International application No. PCT/RU00/00040	International filing date (day/month/year) 07 February 2000 (07.02.00)

1. The following indications appeared on record concerning: <input type="checkbox"/> the applicant <input type="checkbox"/> the inventor <input checked="" type="checkbox"/> the agent <input type="checkbox"/> the common representative		
Name and Address ALTSHULER, Viktor Sergeevich shosse Entuziastov, 96-4-386 Moscow, 111531 Russian Federation	State of Nationality	State of Residence
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning: <input type="checkbox"/> the person <input type="checkbox"/> the name <input checked="" type="checkbox"/> the address <input type="checkbox"/> the nationality <input type="checkbox"/> the residence		
Name and Address MOLCHANOV, Sergei Petrovich ZAO "AVTEX LTD" Profsojuznaya, 65 Moscow, 117806 Russian Federation	State of Nationality	State of Residence RU
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
3. Further observations, if necessary: The agent has renounced. The address indicated in box 2 is to be used as the special address for correspondence		
4. A copy of this notification has been sent to: <input checked="" type="checkbox"/> the receiving Office <input checked="" type="checkbox"/> the designated Offices concerned <input type="checkbox"/> the International Searching Authority <input type="checkbox"/> the elected Offices concerned <input type="checkbox"/> the International Preliminary Examining Authority <input type="checkbox"/> other:		

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Beatriz Morariu Telephone No.: (41-22) 338.83.38
---	---

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

MOLCHANOV, Sergei Petrovich
ZAO "AVTEX LTD"
Profsojuznaya, 65
Moscow, 117806
FÉDÉRATION DE RUSSIE

Date of mailing (day/month/year)

13 September 2000 (13.09.00)

Applicant's or agent's file reference

IMPORTANT NOTIFICATION

International application No.

PCT/RU00/00040

International filing date (day/month/year)

07 February 2000 (07.02.00)

1. The following indications appeared on record concerning:



the applicant



the inventor



the agent



the common representative

Name and Address

KIRPICHNIKOV, Alexei Petrovich
ul. Butlerova, 10-176
Moscow, 117485
Russian Federation

State of Nationality

RU

State of Residence

RU

Telephone No.

(7 095) 939 20 54

Facsimile No.

Teleprinter No.

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:



the person



the name



the address



the nationality



the residence

Name and Address

State of Nationality

State of Residence

Telephone No.

Facsimile No.

Teleprinter No.

3. Further observations, if necessary:

The above-identified inventor is applicant for the purposes of the United States of America only

4. A copy of this notification has been sent to:



the receiving Office



the designated Offices concerned



the International Searching Authority



the elected Offices concerned



the International Preliminary Examining Authority



other:

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer

Beatriz Morariu

Facsimile No.: (41-22) 740.14.35

Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

MOLCHANOV, Sergei Petrovich
ZAO "AVTEX LTD"
Profsojuznaya, 65
Moscow, 117806
FÉDÉRATION DE RUSSIE

Date of mailing (day/month/year) 13 September 2000 (13.09.00)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference	
International application No. PCT/RU00/00040	International filing date (day/month/year) 07 February 2000 (07.02.00)

1. The following indications appeared on record concerning: <input checked="" type="checkbox"/> the applicant <input type="checkbox"/> the inventor <input type="checkbox"/> the agent <input type="checkbox"/> the common representative		
Name and Address ZAKRYTOE AKTSIONERNOE OBSHESTVO "AVTEX LTD" Profsojuznaya ul., 65 Moscow, 117806 Russian Federation	State of Nationality RU	State of Residence RU
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning: <input checked="" type="checkbox"/> the person <input type="checkbox"/> the name <input type="checkbox"/> the address <input type="checkbox"/> the nationality <input type="checkbox"/> the residence		
Name and Address	State of Nationality	State of Residence
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
3. Further observations, if necessary: The above-identified new applicant should be registered for all designated States except the United States of America.		
4. A copy of this notification has been sent to: <input checked="" type="checkbox"/> the receiving Office <input checked="" type="checkbox"/> the designated Offices concerned <input type="checkbox"/> the International Searching Authority <input type="checkbox"/> the elected Offices concerned <input type="checkbox"/> the International Preliminary Examining Authority <input type="checkbox"/> other:		
The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35		Authorized officer Beatriz Morariu Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
 US Department of Commerce
 United States Patent and Trademark
 Office, PCT
 2011 South Clark Place Room
 CP2/5C24
 Arlington, VA 22202
 ETATS-UNIS D'AMERIQUE
 in its capacity as elected Office

Date of mailing (day/month/year) 03 November 2000 (03.11.00)	
International application No. PCT/RU00/00040	Applicant's or agent's file reference
International filing date (day/month/year) 07 February 2000 (07.02.00)	Priority date (day/month/year) 08 February 1999 (08.02.99)
Applicant KIRPICHNIKOV, Alexei Petrovich et al	

1. The designated Office is hereby notified of its election made:



in the demand filed with the International Preliminary Examining Authority on:

08 September 2000 (08.09.00)



in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was



was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Claudio Borton
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

P A T E N T COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

ERMAKOVAYA, Ekaterina
ZAO "AVTEX Ltd"
Profsoyuznaya ul., 65
Moscow, 117806
FÉDÉRATION DE RUSSIE

Date of mailing (day/month/year) 08 January 2001 (08.01.01)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference	
International application No. PCT/RU00/00040	International filing date (day/month/year) 07 February 2000 (07.02.00)

1. The following indications appeared on record concerning: <input checked="" type="checkbox"/> the applicant <input type="checkbox"/> the inventor <input type="checkbox"/> the agent <input type="checkbox"/> the common representative		
Name and Address OOO TSENTR INNOTEK B. Semenovskaya ul., 49-404 Moscow, 105023 Russian Federation	State of Nationality RU	State of Residence RU
	Telephone No. (7 095) 939 20 54	
	Facsimile No.	
	Teleprinter No.	
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning: <input checked="" type="checkbox"/> the person <input type="checkbox"/> the name <input type="checkbox"/> the address <input type="checkbox"/> the nationality <input type="checkbox"/> the residence		
Name and Address ERMAKOVAYA, Ekaterina ZAO "AVTEX Ltd" Profsoyuznaya ul., 65 Moscow, 117806 Russian Federation	State of Nationality RU	State of Residence RU
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
3. Further observations, if necessary: The address in box is the new special address for correspondence		
4. A copy of this notification has been sent to: <input checked="" type="checkbox"/> the receiving Office <input type="checkbox"/> the designated Offices concerned <input type="checkbox"/> the International Searching Authority <input checked="" type="checkbox"/> the elected Offices concerned <input checked="" type="checkbox"/> the International Preliminary Examining Authority <input checked="" type="checkbox"/> other: Former agent		

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Beatriz Morariu
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

To:

OOO TSENTR INNOTEK
B.Semenovskaya ul., 49-404
Moscow, 105023
FÉDÉRATION DE RUSSIE

Date of mailing (day/month/year)

18 October 2000 (18.10.00)

Applicant's or agent's file reference

IMPORTANT NOTIFICATION

International application No.

PCT/RU00/00040

International filing date (day/month/year)

07 February 2000 (07.02.00)

1. The following indications appeared on record concerning:

☐

the applicant

☐

the inventor

☒

the agent

☐

the common representative

Name and Address

OOO TSENTR INNOTEK
B.Semenovskaya ul., 49-404
Moscow, 105023
Russian Federation

State of Nationality

State of Residence

Telephone No.

Facsimile No.

Teleprinter No.

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☒

the person

☐

the name

☐

the address

☐

the nationality

☐

the residence

Name and Address

State of Nationality

State of Residence

Telephone No.

095 737 6377

Facsimile No.

095 737 6366

Teleprinter No.

3. Further observations, if necessary:

A new agent has been appointed

4. A copy of this notification has been sent to:

☒

the receiving Office

☒

the designated Offices concerned

☐

the International Searching Authority

☐

the elected Offices concerned

☐

the International Preliminary Examining Authority

☐

other:

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer

Beatriz Morariu

Facsimile No.: (41-22) 740.14.35

Telephone No.: (41-22) 338.83.38

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : G01B	A2	(11) International Publication Number: WO 00/46568 (43) International Publication Date: 10 August 2000 (10.08.00)
(21) International Application Number: PCT/RU00/00040 (22) International Filing Date: 7 February 2000 (07.02.00) (30) Priority Data: 99102369 8 February 1999 (08.02.99) RU (71)(72) Applicant and Inventor: KIRPICHNIKOV, Alexei Petrovich [RU/RU]; ul. Butlerova, 10-176, Moscow, 117485 (RU). (72) Inventors; and (75) Inventors/Applicants (for US only): MOLCHANOV, Sergei Petrovich [RU/RU]; ul. Mishina, 23-12, Moscow, 125083 (RU). DREMOV, Vjacheslav Vsevolodovich [RU/RU]; ul. Pervaya, 6a-18, pos. Chemogolovka, Moskovskaya obl., 142432 (RU). (74) Agent: ALTSHULER, Viktor Sergeevich; shosse Entuziastov, 96-4-386, Moscow, 111531 (RU).		(81) Designated States: AM, AT, AU, BG, BR, BY, CA, CN, CZ, DE, DK, EE, ES, FI, GB, HR, HU, IL, JP, KP, KR, KZ, LT, LV, MD, MX, NO, NZ, PL, RU, SE, UA, US, YU, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>Without international search report and to be republished upon receipt of that report.</i>
(54) Title: METHOD OF INFORMATION COLLECTION AND PROCESSING OF SAMPLE'S SURFACE (57) Abstract The applied method is implemented in AFM-microscopy to get space distributions of surface properties and layers, placed on it. This method includes successive reading in predetermined points of the surface under control of force curve and subsequent constructions of images of appropriate distributions of parameters extracted from these force curves. The peculiarity of the method is that reading of force curve is carried out by noting of values of cantilever's deviation force and/or coordinate of its fixed end and/or derivatives from cantilever's deviation force of coordinate of its fixed end at least in points of control of force curve. Upon that, characteristics and parameters of sample's surface and/or surface layers, for instance, presence, quantity and thickness of surface layers, coordinates of sample's surface and limits of surface layers, as well as adhesion, elastic and friction properties of surface and layers, are diagnosed by a number of points of control and/or noted values of cantilever's deviation force and/or coordinate of its fixed end and/or derivatives from cantilever's deviation force of coordinate of its fixed end in appropriate points.		

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
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AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
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BY	Belarus	IS	Iceland	MX	Mexico	US	United States of America
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CM	Cameroon	KR	Republic of Korea	PT	Portugal		
CN	China	KZ	Kazakstan	RO	Romania		
CU	Cuba	LC	Saint Lucia	RU	Russian Federation		
CZ	Czech Republic	LI	Liechtenstein	SD	Sudan		
DE	Germany	LK	Sri Lanka	SE	Sweden		
DK	Denmark	LR	Liberia	SG	Singapore		
EE	Estonia						

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



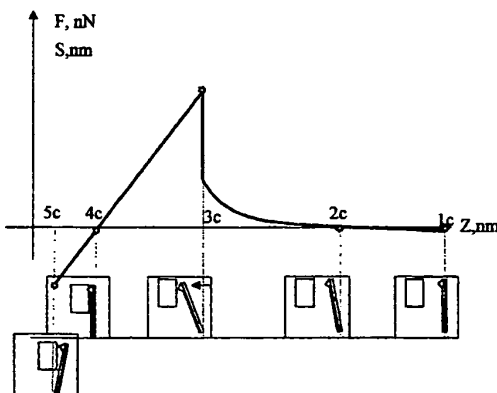
(43) International Publication Date
10 August 2000 (10.08.2000)

PCT

(10) International Publication Number
WO 00/46568 A3

- (51) International Patent Classification⁷: **G01B 7/34**
- (21) International Application Number: **PCT/RU00/00040**
- (22) International Filing Date: **7 February 2000 (07.02.2000)**
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data:
99102369 **8 February 1999 (08.02.1999)** **RU**
- (71) Applicant and
(72) Inventor: **KIRPICHNIKOV, Alexei Petrovich [RU/RU];**
ul. Buterova, 10-176, Moscow, 117485 (RU).
- (72) Inventors; and
(75) Inventors/Applicants (*for US only*): **DREMOV, Vjacheslav Vsevolodovich [RU/RU];** **ul. Pervaya, 6a-18,**
pos. Chernogolovka, Moskovskaya obl., 142432 (RU).
MOLCHANOV, Sergei Petrovich [RU/RU]; **ul. Mishina,**
23-12, Moscow, 125083 (RU).
- (74) Agent: **OOO TSENTR INNOTEK; B.Semenovskaya ul.,**
49-404, Moscow, 105023 (RU).
- (81) Designated States (*national*): **AM, AT, AU, BG, BR, BY,**
CA, CN, CZ, DE, DK, EE, ES, FI, GB, HR, HU, IL, JP, KP,
KR, KZ, LT, LV, MD, MX, NO, NZ, PL, RU, SE, UA, US,
YU.
- (84) Designated States (*regional*): **European patent (AT, BE,**
CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,
NL, PT, SE).
- Published:
— *With international search report.*
- (88) Date of publication of the international search report:
21 December 2000
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: **METHOD OF INFORMATION COLLECTION AND PROCESSING OF SAMPLE'S SURFACE**



(57) Abstract: The applied method is implemented in AFM-microscopy to get space distributions of surface properties and layers, placed on it. This method includes successive reading in predetermined points of the surface under control of force curve and subsequent constructions of images of appropriate distributions of parameters extracted from these force curves. The peculiarity of the method is that reading of force curve is carried out by noting of values of cantilever's deviation force and/or coordinate of its fixed end and/or derivatives from cantilever's deviation force of coordinate of its fixed end at least in points of control of force curve. Upon that, characteristics and parameters of sample's surface and/or surface layers, for instance, presence, quantity and thickness of surface layers, coordinates of sample's surface and limits of surface layers, as well as adhesion, elastic and friction properties of surface and layers, are diagnosed by a number of points of control and/or noted values of cantilever's deviation force and/or coordinate of its fixed end and/or derivatives from cantilever's deviation force of coordinate of its fixed end in appropriate points.

WO 00/46568 A3

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/ 00/00040

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01B7/34

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01B G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, EP0-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A,P	US 5 983 712 A (HAN WENHAI ET AL) 16 November 1999 (1999-11-16) column 7 -column 9 ---	1-30
Y	US 5 723 982 A (YASUE TAKAO ET AL) 3 March 1998 (1998-03-03) column 5 -column 9 ---	1-10
Y	US 5 553 487 A (ELINGS VIRGIL B) 10 September 1996 (1996-09-10) column 9 -column 15 ---	1-10
A	US 5 477 732 A (YASUE TAKAO ET AL) 26 December 1995 (1995-12-26) cited in the application column 6 -column 13 --- -/--	1-10



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"A" document member of the same patent family

Date of the actual completion of the international search

24 July 2000

Date of mailing of the international search report

01/08/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Dietrich, A

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/JP 00/00040

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 289 004 A (OKADA TAKAO ET AL) 22 February 1994 (1994-02-22) column 4 -column 14 -----	1-30
A	US 5 266 801 A (ELINGS VIRGIL B ET AL) 30 November 1993 (1993-11-30) column 6 -column 10 -----	1-30

INTERNATIONAL SEARCH REPORT

Informative patent family members

Int. Patent Application No

PCT 00/00040

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5983712 A	16-11-1999	US 5866805 A	02-02-1999
		US 5612491 A	18-03-1997
		US 5513518 A	07-05-1996
		US 5515719 A	14-05-1996
		EP 1002216 A	24-05-2000
		WO 9906793 A	11-02-1999
		US 5753814 A	19-05-1998
		EP 0813675 A	29-12-1997
		JP 10511467 T	04-11-1998
		WO 9628706 A	19-09-1996
US 5723982 A	03-03-1998	JP 8062229 A	08-03-1996
US 5553487 A	10-09-1996	US 5400647 A	28-03-1995
US 5477732 A	26-12-1995	JP 7113741 A	02-05-1995
		DE 4437081 A	20-04-1995
US 5289004 A	22-02-1994	JP 3021872 B	15-03-2000
		JP 5141961 A	08-06-1993
		DE 69123866 D	13-02-1997
		DE 69123866 T	26-06-1997
		EP 0449221 A	02-10-1991
		JP 4212252 A	03-08-1992
		JP 4270903 A	28-09-1992
US 5266801 A	30-11-1993	US 5229606 A	20-07-1993
		US 5415027 A	16-05-1995

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No.	International filing date (day/month/year)	(Earliest) Priority Date (day/month/year)
PCT/RU 00/ 00040	07/02/2000	08/02/1999
Applicant		
KIRPICHNIKOV, Aleksei Petrovich et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☒ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

3

☐ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/RU 00/00040

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G01B7/34

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01B G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A,P	US 5 983 712 A (HAN WENHAI ET AL) 16 November 1999 (1999-11-16) column 7 -column 9 ---	1-30
Y	US 5 723 982 A (YASUE TAKAO ET AL) 3 March 1998 (1998-03-03) column 5 -column 9 ---	1-10
Y	US 5 553 487 A (ELINGS VIRGIL B) 10 September 1996 (1996-09-10) column 9 -column 15 ---	1-10
A	US 5 477 732 A (YASUE TAKAO ET AL) 26 December 1995 (1995-12-26) cited in the application column 6 -column 13 --- -/--	1-10

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

24 July 2000

Date of mailing of the international search report

01/08/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Dietrich, A

INTERNATIONAL SEARCH REPORT

International Application No

PCT/RU 00/00040

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category ²	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 289 004 A (OKADA TAKAO ET AL) 22 February 1994 (1994-02-22) column 4 -column 14 ---	1-30
A	US 5 266 801 A (ELINGS VIRGIL B ET AL) 30 November 1993 (1993-11-30) column 6 -column 10 -----	1-30

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/RU 00/00040

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5983712 A	16-11-1999	US 5866805 A	02-02-1999
		US 5612491 A	18-03-1997
		US 5513518 A	07-05-1996
		US 5515719 A	14-05-1996
		EP 1002216 A	24-05-2000
		WO 9906793 A	11-02-1999
		US 5753814 A	19-05-1998
		EP 0813675 A	29-12-1997
		JP 10511467 T	04-11-1998
		WO 9628706 A	19-09-1996
US 5723982 A	03-03-1998	JP 8062229 A	08-03-1996
US 5553487 A	10-09-1996	US 5400647 A	28-03-1995
US 5477732 A	26-12-1995	JP 7113741 A	02-05-1995
		DE 4437081 A	20-04-1995
US 5289004 A	22-02-1994	JP 3021872 B	15-03-2000
		JP 5141961 A	08-06-1993
		DE 69123866 D	13-02-1997
		DE 69123866 T	26-06-1997
		EP 0449221 A	02-10-1991
		JP 4212252 A	03-08-1992
		JP 4270903 A	28-09-1992
US 5266801 A	30-11-1993	US 5229606 A	20-07-1993
		US 5415027 A	16-05-1995

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

12

Applicant's or agent's file reference WI01-IN/427	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/RU 00/00040	International filing date (day/month/year) 07 February 2000(07.02.2000)	Priority date (day/month/year) 08 February 1999(08.02.1999)
International Patent Classification (IPC) or national classification and IPC G01B 7/34		
Applicant ZAKRYTOYE AKTSIONERNOYE OBSHESTVO "AUTEX" et al.		
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This Report consists of a total of <u>3</u> sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70/16 and Section 607 of the Administrative Instructions under PCT).</p> <p>These annexes consist of a total of _____ sheets</p> <p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>		
Date of submission of the demand: 08 September 2000 (08.09.2000)	Date of completion of this report: 10 April 2001 (10.04.2001)	
Name and mailing address of the IPEA/ RU FIPS Russia, 121858, Moskva, Berezhkovskaya nab., 30-1	Authorized officer V. Renteev	
Facsimile No.	Telephone No 240-58-88	

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/RU 00/00040

I. Basis of the report

1. With regard to the elements of the international application:*

☒ the international application as originally filed.

☐ the description:
pages _____

☐ the description, pages _____, as originally filed,
pages _____, filed with the demand,
pages _____, filed with the letter of _____
pages _____, filed with the letter of _____

☐ the claims, Nos. _____, as originally filed,
Nos. _____, as amended under Article 19,
Nos. _____, filed with the demand,
Nos. _____, filed with the letter of _____
Nos. _____, filed with the letter of _____

☐ the drawings, sheets/fig _____, as originally filed,
sheets/fig _____, filed with the demand,
sheets/fig _____, filed with the letter of _____
sheets/fig _____, filed with the letter of _____

2. The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/fig _____

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

4. Additional observations, if necessary:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/RU 00/00040

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1 -30	YES
	Claims		NO
Inventive Step (IS)	Claims	1 -30	YES
	Claims		NO
Industrial Applicability (IA)	Claims	1 -30	YES
	Claims		NO

2. Citations and explanations

The following documents cited in Search report were taken into account:

D1 - US 5723982; D2 - US 5553487; D3 - US 5477732; D4 - US 5289004; D5 - US 5266801

D1 discloses a device for realizing the method of the analysis of thin film parameters, characterizing its relief, film surface properties and some properties of its surface layers in the multiplicity of predetermined points of control by a cantilever with a probe fixed on its moveable end for the measurement of surface roughness and volt-ampere characteristics in predetermined points of control, and by functional blocks for storage and reflection of data received (col. 5-9).

D2 discloses a method of sample surface's information collection and processing, in particular, the friction parameters, by atomic force microscopy, consisting in successive reading of the points of force curve in predetermined control point within the process of forward and reverse movement of a probe which is fixed on moveable end of cantilever; the initial probe position with respect to the sample's surface is determined (col.9-15).

D3 discloses a method of measurement of sample's surface layers adhesion by measuring probe fixed on the cantilever (col.6-13).

D4 discloses a sample's scanning microscope using an effect of light reflection from sample's surface including a cantilever with measuring probe (co.4-14).

D5 discloses an atomic microscope for measuring surface properties of the sample, including a probe and tenso detector for measuring cantilever's bend (col.6-10).

A method of information collection and processing of sample's surface described in D2 is considered to be the closest prior art. The claimed invention differs from known by that the information is collected in the multiplicity of predetermined points of surface under control; derivatives from cantilever's deviation force of coordinate of its fixed end are determined at least in points of control of force curve; properties of its surface layers are determined; sample's parameters are determined by derivatives from cantilever's deviation force of coordinate of its fixed end in appropriate points of control. Hence claims 1-30 are novel.

From D1 it is known that the information about the sample's surface is read in the multiplicity of predetermined points of control; the sample's parameters characterizing some properties of surface layers are determined.

But from D1-D5 it is not known the determination of necessary sample surface's parameters on the base of the force curve data, taken in the multiplicity of points of control of the surface involved; and these features are not obvious.

So the independent claim 1 and dependent claims 2-30 involve an inventive step.

Claims 1-30 are industrially applicable.